## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 23 December 2004 (23.12.2004)

## (10) International Publication Number WO 2004/110755 A1

(51) International Patent Classification7:

B32B 27/34

(21) International Application Number:

PCT/IB2004/002497

(22) International Filing Date:

11 June 2004 (11.06.2004)

(25) Filing Language:

Italian

(26) Publication Language:

English

(30) Priority Data: MI 2003 A 001203

13 June 2003 (13.06.2003)

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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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(54) Title: MULTILAYER SHRINK FILM

| Layers | % Nom. | Change % | Example 1  | Example 2                    | Example 3                                    | Example 4                    | Example 5                                    | Example 6  | Example 7                    | Example 8                    | Example 9  | Example 10  | Example 11   |
|--------|--------|----------|------------|------------------------------|--|------------------------------|--|------------|------------------------------|------------------------------|--|---|--|
| ^      | 20     | ±10      | lonomer    | lonomer                      | lonomer                                      | lonomer                      | lonomer                                      | lonomer    | Plastomer                    | LLDPE                        | LDPE   | lonomer   | lonomer  |
| 8      | 10     | ±5       | Terionomer | Terfonomer                   | Terlonomer                                   | Terionomer                   | Terionomer                                   | Terlonomer | Modified<br>LLDPE            | Modified<br>LLDPE            | EVA +<br>ethylane<br>methacrylic<br>acid copolymer | Terionomer  | Terlonomer   |
| С      | 15     | ±5       | PA 6/66    | PA 6/68 +<br>allphatic<br>PA | PA 6/66 +<br>amorphous<br>PA +<br>Terionomer | PA 6/66                      | PA 6/66                                      | PA 8/68    | PA 6/68 +<br>amorphous<br>PA | PA 6/68 +<br>emorphous<br>PA | PA 6/66 + PA 6                                     | PA 6/68   | PA 6/66  |
| D      | 15     | ±5       | Terionomen | Terlonomer                   | Terlanomer                                   | Terlonomer                   | Terionomer                                   | Terionomer | Modified<br>LLDPE            | Modified<br>LLDPE            | EVA +<br>ethylene<br>methacrylic<br>acid copolymer |   | EVA +<br>ethylene<br>methacrylic acid<br>copolymer |
| E      | 15     | ±5       | PA 6/68    | PA 6/66                      | PA 6/86                                      | PA 6/66 +<br>amorphous<br>PA | PA 6/56 +<br>amorphous<br>PA +<br>Terlonomer | PA         | PA 6/66                      | PA 6/66                      | PA 6/66  | PVA<br>Polyvinytalcohol                           | PGA<br>Polyglycolic acid                           |
| F      | 10     | ±5       | Terlonomer | Terlonomer                   | Tertonomer                                   | Terlonomer                   | Terionomer                                   | Terionomer | Modified                     | Modified<br>LLDPE            | EVA +<br>sthylene<br>methacrylic<br>scid copolymer | EVA +<br>ethylene<br>methacrytic add<br>copolymer | EVA +<br>ethylene<br>methacrylic acid<br>copolymer |
| 6      | 15     | ± 10     | PA 5/68    | PA 6/66                      | PA 6/68                                      | PA 6/86                      | PA 6/66                                      | PA.8/66    | PA 5                         | PA 6/86                      | PA 6/66  | PA 6/66   | PA 6/66  |

(57) Abstract: This invention relates to a film formed by overlaid layers constituted by thermoplastic polymers of different natures, wherein at least two layers are constituted by a polyamide. Said film is heat shrinkable, being biaxially oriented. It is also perfectly transparent after shrinkage and has high mechanical characteristics and barrier properties to gases, in particular oxygen, and finally, presents a low curling effect. The film according to the invention comprises a plurality of overlaid layers constituted by non-crosslinked thermoplastic polymers of different natures, wherein the material that constitutes one of the outer layers melts at a lower temperature than the materials that constitute the other layers. It also includes three layers constituted by polymers having a Young's modulus substantially higher than that of the polymers which constitute the other layers. Said film is characterised in that one of said three layers with a higher Young's modulus is on the outside of the film, whereas the other two layers with a higher Young's modulus are on the inside of the film. Moreover, each of said three layers with a higher Young's modulus is separated from the other layers with a higher Young's modulus by at least one layer with a lower Young's modulus.



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